Chapter 1: Overview

1.1 About Control Room Logbook (CRL)

Control Room Logbook (**CRL**) is a multimedia, computer-based logbook for use in high energy physics experiment control rooms. **CRL** was conceived in early 1999. It was developed in **Java** and **XML** according to a set of requirements identified by physicists from several different experiments[1]. **CRL** has three parts:

- the **CRL** application, written in Java, and installed in the control room to create, manipulate, and log entries
- the optional Process Logger to allow entries created by external programs to be logged
- the optional **CRL** Web Access to browse the log entries

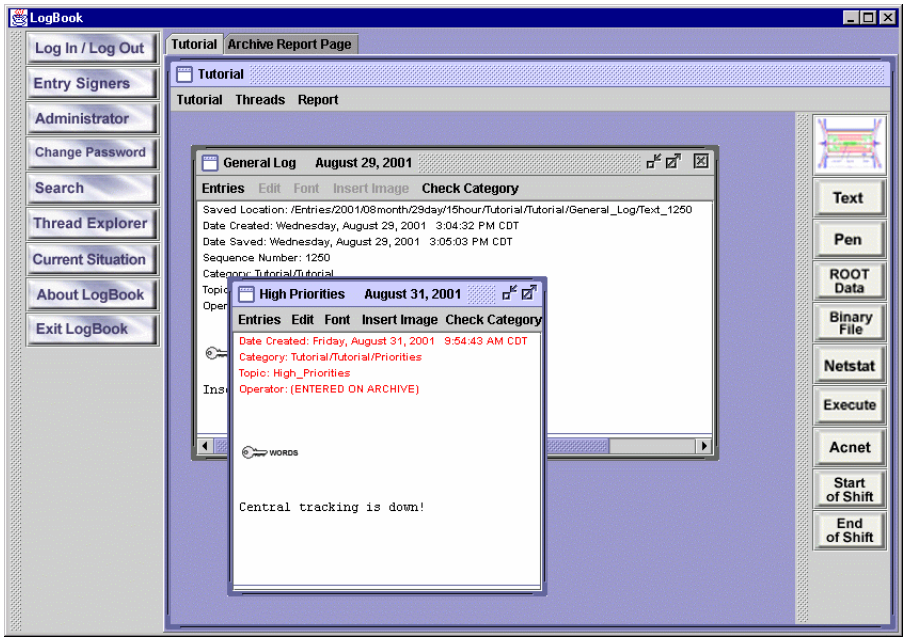
CRL supports a wide variety of entry data types. It stores the entries' content in XML and HTML on the local disk drive. In addition, it uses a relational database to store indexed information to query the entries. **CRL** is compatible with any relational database management system (RDBMS). The Web Access portion uses only the relational database and the HTML entries.

1.2 The CRL Application Window

In this section, we provide an overview of the user interface, describing the "look and feel", and identifying the types of objects found in the **CRL** window. The window in which **CRL** runs is composed of two frames:

- the **CRL** toolbar running vertically down the left side of the window; this area is not configurable
- the tabbed pane on the right which displays one desktop page at a time according to the selected tab; the desktops are configurable

1. The experiments polled include DZero, CDF, CMS, NUMI, and BTeV.



1.2.1 The Look and Feel

CRL uses a familiar paradigm for its GUI, and includes features to aid in easy identification of desktop elements and logbook entry status:

- toolbars, buttons, cascading drop-down menus, and tooltips on rollover
- separate desktop pages with tabbed views
- use of color for finding information or checking status “at-a-glance”

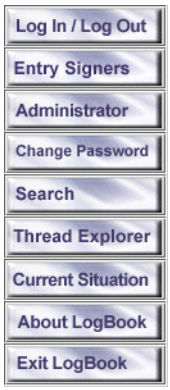
... and easy entry/manipulation of logbook data:

- drag-and-drop to initiate logbook entry
- double-click, hotkey and right-click shortcuts

- pop-up windows allowing you to type in or browse for item
- cut/copy/paste functions (within **CRL** and from/to external applications)
- selection of individual entries or all
- "threads" for linking a series of related entries
- automatic, scheduled logbook data entry

1.2.2 The CRL Toolbar

The **CRL** toolbar is a column of clickable buttons that control basic operations of **CRL** independently of the desktop page operations:



LOG IN/LOG OUT Brings up the login window (see section 2.2.1 *Logging In*)

ENTRY SIGNERS Brings up a window in which to add/remove logged in users from the list of entry signers (see section 2.1.1 *About the Entry Signer Feature*)

ADMINISTRATOR Brings up window for adding/(de)activating/editing user information; administrative password required; (see Chapter 11: *Managing User Information*)

CHANGE PASSWORD Brings up a window allowing users to change their password (see section 2.4 *Changing your Password*)

SEARCH Brings up window for querying database (see section 8.1 *Accessing Archived Entries*)

THREAD EXPLORER Brings up window for managing threads. Threads are used to link related logbook entries (see Chapter 7: *Threading Logbook Entries*)

CURRENT SITUATION

Brings up window to allow entry of "current situation" message (see section 3.4 *Attaching Global Message to All Entries*)

ABOUT LOGBOOK Brings up window containing information about the **CRL** application

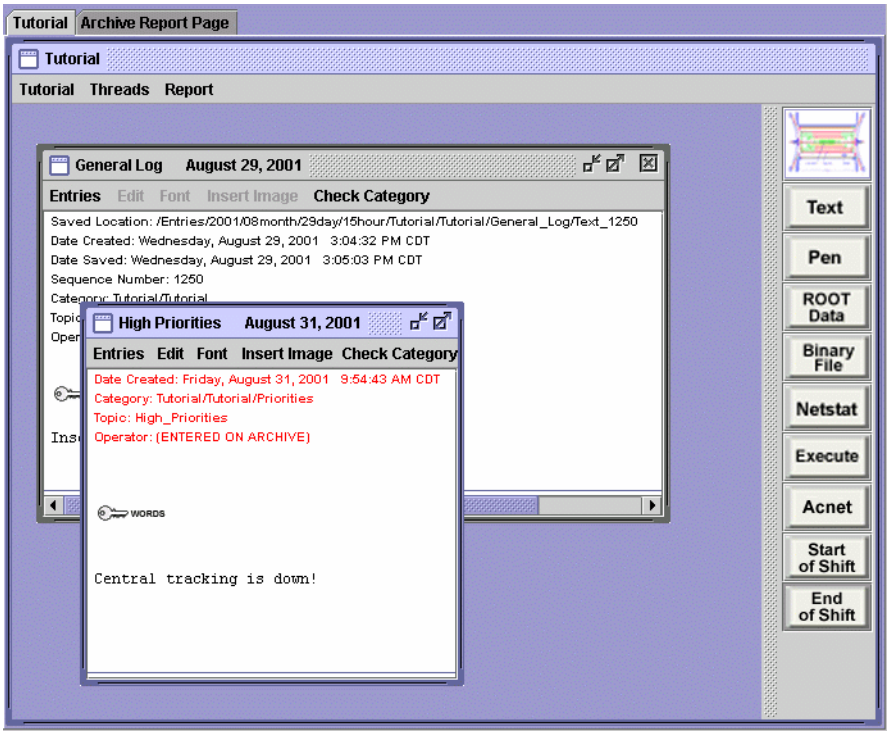
EXIT LOGBOOK Exits the **CRL** application (confirmation prompt provided)

1.2.3 The CRL Desktop

To the right of the **CRL** Toolbar is a large window that comprises the desktop. The **CRL** desktop is highly customizable, and each experiment configures the desktop pages, the input sources for logbook entries, and the hierarchical structure of categories and topics for logbook data storage according to its needs. The number of items needed on the desktop may therefore become quite large. Complex experiments with lots of monitoring equipment may choose to run **CRL** simultaneously on several computers in the control room, each configured to accept logbook entries from a particular set of sources, and to log the entries into a corresponding set of categories/topics. This allows the desktop on each machine to remain relatively uncluttered.

Objects on the Desktop

Desktop Page — A desktop page is a work space. Each page provides menus and optionally a toolbar, depending on the page's function. There may be several pages to your desktop; pages are configurable by experiment. One page is visible and active at a time. The active desktop page is identified at the top of the page (shown in this image as **TUTORIAL**), underneath the row of *page tabs*, described below.

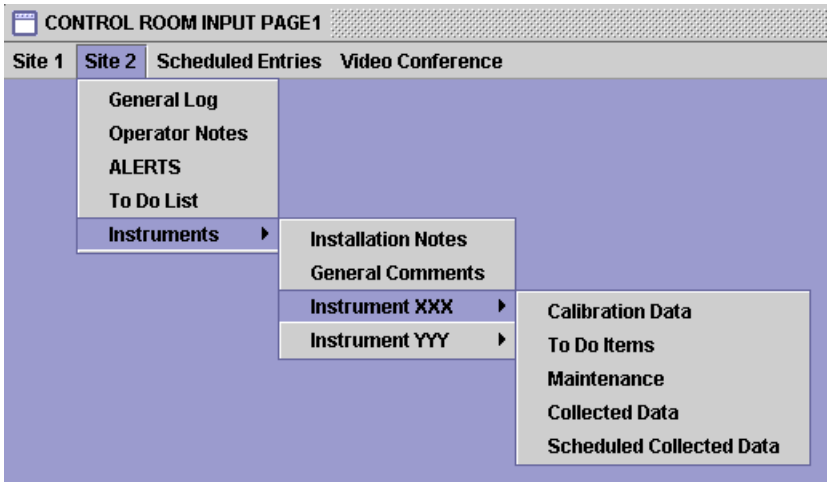


Page Tabs

Page tabs are displayed horizontally along the top of the desktop. They identify the various desktop pages in your configuration. Click on one to make it the active page on the desktop.

Pull-down Menus

Each desktop page has a set of menu headings lined up horizontally underneath the page title. Usually they represent general logbook entry categories. These are pull-down menus which are configurable by experiment. They may cascade several levels in order to allow precise categorization of entries. See *categories* and *topics* below.



Categories

The menu headings and all the sublevels of categorization except the final one are considered logbook entry *categories*.

Topics

The final level of categorization is considered the *topic*. Associated with each topic is a *container*, described below.

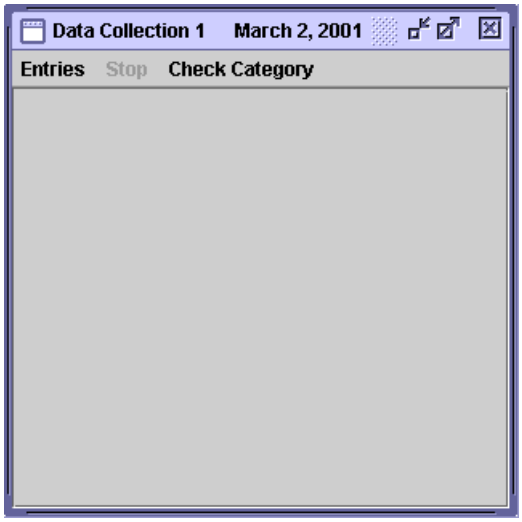
Containers

A container is a **CRL** window that can contain logbook entries. Each container represents a particular topic under the selected category hierarchy.

There are several kinds of containers, described below, each with different properties. Each container provides menus for manipulating entries. These menus are not configurable, and they vary according to the container type.

Input containers

Input containers are containers in which you can add and edit new logbook entries.

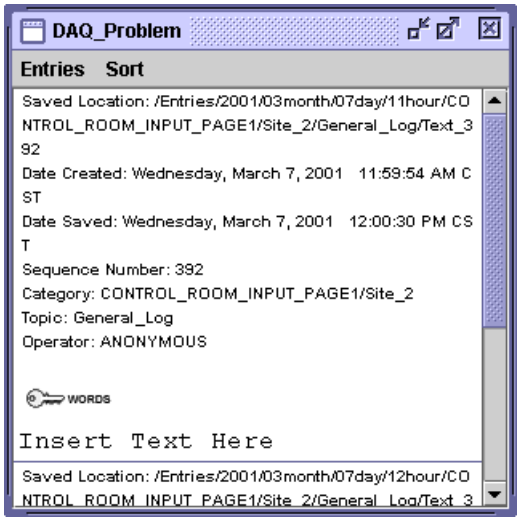


Scheduled Containers

Scheduled containers are input containers for automatically scheduled logbook data entry.

Thread Containers

A *thread* links entries relating to a particular issue. Thread containers are used for collecting threaded archived logbook entries.



Report Containers

Report containers are used for collecting archived logbook entries to include in reports.

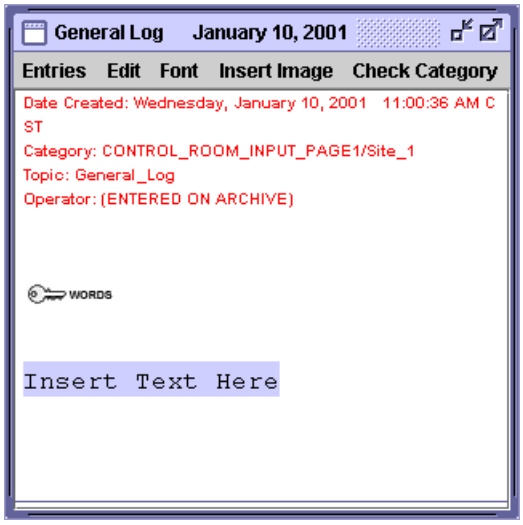
Logbook Entry Toolbar

On pages that allow logbook data entry, there is a toolbar running vertically down the right-hand side of the page. This toolbar includes a button for each logbook entry type (e.g., text, image binary file, **ROOT** data, etc.), as configured for your installation. To create an entry of a given type, you use your mouse to drag the corresponding button into an input container.

1.3 Logbook Entry Format

Logbook entries get added to input containers or scheduled containers. In either type of input container, each data entry has a header, which identifies the date and time of the entry, the data category and topic, and the operator(s) who logged the entry. If there are any keywords that can be attached to the entry

(depends on the configuration), then below the header you'll see a key symbol (WORDS), which can be clicked to show or set keywords for the entry. Finally, the body of the entry is displayed under the key symbol.



Before a logbook entry is archived to the **CRL** database, its content and/or appearance can be modified, or it can be deleted. At this pre-archived stage, the data header appears in red. Once it is archived, the data entry can no longer be modified or deleted, and the data header turns to black. This color change was designed to let operators tell easily which entries are archived and which are not. In report containers, all headings are black, since all possible entries are already archived.